REMARKS / ARGUMENTS

Reconsideration of the present application, as amended, is respectfully requested.

The December 3, 2003 Office Action and the Examiner's comments have been carefully considered. In response, claims are amended and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

PRIOR ART REJECTIONS

In the Office Action, claims 1-19 are rejected under 35 USC 103 as being unpatentable over USP 5,740,267 (Echerer et al.) in view of USP 6,614,452 (Cable).

The present claimed invention as defined by amended claim 1 is directed to a method for providing and processing a cursored user interaction with a spatially displayed medical image and producing graphics related data on the medical image. The method includes the steps of providing a menu-less graphical interface for displaying, essentially unobstructed, the medical image in a substantial portion of the menu-less graphical interface,

controlling a mouse computer interface device having at least one button, displaying a pointer symbol on the graphical interface which represents a current position of the mouse on the graphical interface, tracking a status of each mouse button, detecting a position for the mouse upon actuation of a mouse button, and generating a measurement graphic related to a predefined set of measurement operations on the medical image upon actuation of a mouse button.

An important feature of the invention is that it is possible to generate measurement graphics without excessive mouse travel. In the prior art, to generate a measurement graphic on a medical image, it is usually necessary to select the type of graphic to be generated from a user interface construct outside of the medical image, such as a toolbar, by pressing a button on a mouse when positioned at a specific location on the toolbar, and then to move the mouse onto the medical image to perform the steps necessary to generate the selected type of measurement graphic. Thus, the mouse had to travel to the toolbar and then back to the medical image to generate the graphic.

To avoid excessive mouse travel, in the invention, it is not necessary to select the type of graphic to be generated but rather, the graphic to be generated can be based solely on the

actual interaction of the mouse (see the specification at page 6, lines 2-4 and subsequent discussion of the manner in which different graphics can be generated by actuation of the mouse buttons). Each click or pressing of a mouse button causes certain predefined actions to occur relating to a graphic so that by varying the number of clicks of the mouse on the medical image and movement of the mouse, it is possible to generate a variety of different graphics (as set forth in claims 2-8) without selection on a toolbar or other user interface construct of the specific type of graphic to be generated.

Thus, in the invention, the generation of the measurement graphics is enabled "without activation of user interface constructs" as now set forth in claim 1. An advantage of the fact that user interface constructs are not required to be activated by a mouse or other input device is that the screen area can be used predominantly for image display, i.e., a menu-less graphical interface is possible (see the specification at page 3, lines 22-24).

The prior art cited by the Examiner does not disclose, teach or suggest enabling the generation of graphics without activation of user interface constructs such as a toolbar.

Echerer et al. disclose a menu selection including a Manual Analysis menu wherein it is necessary to select specific buttons on the menu in order to generate a measurement graphic. An example is provided of pressing a "Distance" button in order to set the program to understand that the distance between the position of the mouse at the next two clicks of the mouse button is to be measured (see col. 13, lines 28-34). Echerer et al. thus requires activation of a user interface construct, i.e., the menu toolbar, in order to generate a graphic.

Cable discloses a graphical user interface (GUI) which allows a user to perform various operations on a medical image. The GUI includes a control panel 312 with a measurement function section 318 (see Fig. 3A). The measurement function section 318 includes a measure button 348 and a pop-up menu 350 which are activated to select a function to be performed on a region of interest (ROI) and to select the ROI to which the function is to be applied, respectively. Cable thus requires activation of a user interface construct, i.e., the toolbar in the form of the control section 312, in order to select the function to be performed by pressing the mouse buttons.

Moreover, in contrast to the position taken by the Examiner, Cable does not disclose a "menu-less graphical interface" in that

menus are indeed displayed. As clearly shown in FIG. 3A, there are drop-down menus and selection bars above the medical image.

Echerer et al. and Cable therefore do not disclose, teach or suggest generating measurement graphics on a medical image displayed on a menu-less graphical interface based on actuation of a mouse button without activating a user interface construct or other input device to select the type of measurement graphic to be generated. Rather, both Echerer et al. and Cable require movement of the mouse to a user interface construct, such as a toolbar, in order to select the type of graphic to be generated. The measurement techniques of Echerer et al. and Cable therefore involve excessive mouse travel which is avoided in the present claimed invention.

In view of the foregoing, claim 1 is patentable over Echerer et al. and Cable when taken either alone under 35 USC 102 or in combination under 35 USC 103.

The other references of record do not close the gap between the present claimed invention as defined by claim 1 and Echerer et al. in view of Cable.

Therefore, claim 1 and claims 2-9 which are dependent thereon are patentable over all of the references of record under 35 USC 102 as well as 35 USC 103.

Claim 10 is an apparatus claim and claim 19 is a machine readable computer program claim which are patentable over the cited references for reasons, *inter alia*, set forth above in connection with claim 1. Specifically, claim 10 recites that the processor is arranged to produce the measurement graphics based on the list of measurement operations "without activation of user interface constructs". As discussed above, Echerer et al. and Cable do not disclose, teach or suggest enabling the generation or production of measurement graphics without activation of user interface constructs, e.g., solely by means of actuation of one or more buttons of a mouse or other pointing device on a medical image.

Claims 11-18 which are either directly or indirectly dependent on claim 10 are patentable over the cited references in view of their dependence on claim 10 and because the references of record do not disclose, teach or suggest each of the limitations set forth in claims 11-18.

New claims 20-22 are presented and depend on claim 1. The features of claims 20-22 are described in the specification as originally filed, e.g., at page 1, lines 14-15, page 3, lines 26-28 and page 4, lines 7-9, so no new matter is introduced by the presentation of these claims.

Three (3) dependent claims are added to this application. Submitted herewith is a check in the amount of $54.00 for the presentation of three (3) additional total claims. If any additional fees are due, or if any overpayment has been made, please charge or credit Deposit Account No. 14-1270 for such sum.

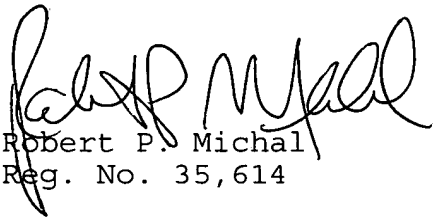
****

If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

Entry of the amendment, allowance of the claims, and the passing of the application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



Robert P. Michal
Reg. No. 35,614

March 3, 2004

Frishauf, Holtz, Goodman & Chick, P.C.
767 Third Avenue - 25th Floor
New York, New York 10017-2023
Tel. No. (212) 319-4900
Fax No. (212) 319-5101
RPM/ms